Our Ref: B22639.L001/JAW/cl

Chkd: jawood

Date: 26 July 2018

Malcolm Walker
5 New Hagg Farm
Oldfield Road
Honley
Holmfirth
HD9 6RN

Dear Malcolm

Re: Ranah Stones, Sheffield, S36 4HJ

Further to our joint visit to the above property yesterday, I write as promised with regards to the main barn at the above property. For the purpose of this report, the front of the barn, photograph 4, is deemed to be that facing the main farmhouse with all descriptions left and right are as if facing the front.

We looked at one portion of the barn building. This had dimensions of approximately 6.2m front to rear and 15.4m left to right. To the left of this section of the barn, the building continues and then returns towards the front been "L-shaped" on plan. I inspected this area and climbed up the steps to the mezzanine floor.

The barn is of traditional stone construction, with walls approximately 500mm thick, having large coursed stone outer leaf and a more random coursed stone inner leaf. The building is approximately 6.3m from the floor to the ridge and approximately 4.3m from the floor to the underside of the king post trusses. The floor does, however, slope generally down from the left towards the right. These dimensions would therefore, vary slightly. There are four king post trusses running front to rear, approximately equally spaced. These generally appear to be in good condition, apart from the right truss which has been strengthened using a steel beam underneath the bottom corner. See photographs 2 and 3. It is obvious that the truss has deteriorated significantly, where it bears onto the rear wall. The roof at present is clad with profiled cementitious sheets, which may contain asbestos.

The building is in generally good condition, with no signs of downward movement noted. The front wall and side walls appear to be reasonably plumb, however, there is significant outward movement of the rear wall, the greatest movement is at eaves level. A section of the rear wall has been rebuilt vertically, using a block inner leaf and there is a step in the outer leaf where the new wall meets the original out of plumb wall. The movement outwards is approximately 150mm and is beyond the point where I would consider the wall stable.

I believe the cause of this movement is failure of the roof structure, many years ago. The roof was possibly clad with stone slates, which would have been significantly heavier than the present roof covering. The right king post truss has failed and dropped resulting in a thrust on the rear wall, at the location of the king post truss. Along the line of the lower purlin, which sits over the wall, individual rafters will have caused pushing out of this section of wall. Following failure of the king post truss, the steel beam was installed

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underneath the truss. In an effort to prevent further movement, two tie bars have been inserted at the location shown on sketch SK1, see also photographs 5 and 6. The first tie bar is close to the right gable wall, whilst the second tie bar has been positioned over the arched window to the front elevation. This is a particular weak point to place a tie and localised movement of the masonry has occurred, directly over the arch but fortunately has not caused any damage to the arch. This damage would indicate that further pulling along the tie bar has occurred, due to further outward movement of the rear elevation.

Although other areas of the barn were not given consideration, it was noted that on the elevation that faces the access road, that there is outward movement occurring where the internal wall meets this elevation. There is further damage over the large opening in the same wall.

From this brief inspection I recommend the following.

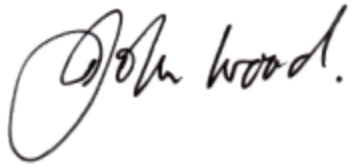
1. The truss that has failed should be strengthened as it would appear where the tenant joint connects into the bottom chord, that this is particularly weakened. If failure occurs, the main rafter could drop causing further pushing on the rear elevation. This might be sufficient to result in further movement of the wall and possibly failure of the wall.

2. I recommend that the rear wall be taken down and rebuilt from just above floor level upwards. There are no signs of downward movement to the wall, therefore, it is assumed the foundations are capable of carrying the wall, without further movement. To undertake this rebuilding work two trusses will have to be propped and one of the mezzanine floor beams would also have to be propped. Repairs are required to the first truss before any propping is undertaken.

3. Any cracks in the property may be repaired using the masonry reinforcement details shown on sketch SK2. Where an internal wall meets and external wall these bars may be bent at 90 degrees and installed as per sketch SK3.

I trust the above is a fair reflection of our discussions. At this stage the client does not appear to have firm plans for the building, however, any subsequent change of use, such as the farm shop or accommodation would require that the roof trusses and walls were stable. I would therefore suggest that the client undertakes the work recommended and a further full report on the building can later be undertaken, following this work. I would suggest that any follow up report be undertaken with a clear understanding of the clients proposed use for the building, particularly if the report is going to be used in support of a Planning Application.

Kind regards



John Wood

Enc: Sketch SK1, SK2 and SK3

Photograph 1

Photograph 2

Photograph 3

Photograph 4

Photograph 5

Photograph 6